

Amendments to the Drawings:

The drawing sheet attached in connection with the above-identified application containing FIG. 4 is being presented as a new formal drawing sheet to be substituted for the previously submitted drawing sheet containing FIG. 4. The drawing FIG. 4 has been amended.

The specific changes which have been made to FIG. 4 are that the arrow from S13 to S11 has been relabeled from “YES” to “NO”, and the arrow from S13 to S14 has been relabeled from “NO” to “YES”.

REMARKS

Status of Claims:

New claims 19-20 are added. Thus, claims 1-20 are present for examination.

Claim for Priority:

The Examiner did not check box 12, 12 a, and 12 a 1 of the Office Action Summary to acknowledge the claim for foreign priority under 35 U.S.C. 119 and to acknowledge that certified copies of the priority documents have been received.

The priority documents were filed on October 12, 2001. Accordingly, applicant requests that the Examiner acknowledge that certified copies of the priority documents have been received.

Specification:

The specification has been amended to correct some minor informalities.

Drawings:

The drawing FIG. 4 has been amended. Specifically, the arrow from S13 to S11 has been relabeled from “YES” to “NO”, and the arrow from S13 to S14 has been relabeled from “NO” to “YES”. The drawing FIG. 4 has been amended in accordance with the following description in the specification:

“The WAP gateway 1 monitors whether the CPI information is renewed at all times (step S13 of Fig. 4). If the CPI information is renewed by the WAP terminal 2, the CPI information thus renewed is cached (step S14 of Fig. 4), and the operations of the steps S11 to S13 are continued.”
(Specification; page 9, lines 17-20).

According to the above-quoted description in the specification, if the CPI information is renewed (S13; yes), then the renewed CPI information is cached (S14). Thus, the arrow from S13 to S14 is labeled “YES”, and the arrow from S13 to S11 is labeled “NO”.

Indefiniteness Rejection:

Claims 3 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. The Examiner stated that, “[t]he limitation of ‘external’ in claims 3 and 14 do not seem to state what the predetermined period is set ‘externally’ from.” The Examiner also stated that there is insufficient antecedent basis for the limitation “the external” in the claims.

With respect to claims 3 and 14, as amended, the rejection is respectfully traversed.

Claims 3 and 14 have been amended. The limitation “the external” has been changed to “an external source”. Therefore, claims 3 and 14 are now believed to comply with the requirements of 35 U.S.C. 112, second paragraph.

Claim Rejections:

Claims 1-4, 8-10, 12-14, and 16-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Huang et al. (U.S. Patent Number 6,438,576)(hereinafter Huang).

Claims 5-7 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang in view of Gauvin et al. (U.S. Patent Number 6,061,686)(hereinafter Gauvin).

Claims 11 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang in view of Eerola (U.S. Patent Number 6,678,518).

With respect to claims 1-18, as amended, the rejections are respectfully traversed.

Independent claim 1, as amended, recites an object filtering method for filtering an object, the object requested by a client from a server, the client accessing the server through a proxy server, the method comprising:

“a step of monitoring a residual amount of memory capacity in the client;

a step of notifying a filtering condition from the client to said proxy server in accordance with the monitoring result; and

a step of filtering the object by said proxy server in accordance with the filtering condition thus notified.” (Emphasis Added)

An object filtering method including the above-quoted steps has the advantage that a residual amount of memory capacity of a client is monitored and a filtering condition is notified from the client to a proxy server in accordance with the monitoring result. Such a method addresses the problem in the prior art where an object is transmitted to a client irrespective of a variation of a residual amount of memory capacity of the client. In the prior art, if the residual amount of the memory capacity is reduced, an object may not be able to be stored, and either the object will have to be discarded or some existing objects will have to be discarded in order to make room for the object. If the object is discarded without being stored, then the communication resources used to send the object are wasted. Thus, an object filtering method including the above-quoted features helps to enhance the line using efficiency between a proxy server and a client and to avoid careless data deletion.

(Specification; page 2, line 22 to page 3, line 7; page 3, lines 9-12; page 10, lines 11-18; page 12, lines 10-22).

Huang neither discloses nor suggests an object filtering method including the above-quoted features where a client monitors a residual amount of memory capacity and notifies a filtering condition to a proxy server in accordance with the monitoring result. In Huang, receiver hint information (RHI) is included with an object request by a requesting client device or is determined by a proxy by accessing a table based on an identifier of the requesting device sent with an object request. (Huang; column 5, lines 49-55). It is important to examine exactly what types of information are included in a RHI for a client device in Huang, because it is apparent that a RHI for a client device in Huang does not contain information about a residual amount of memory capacity of the client device.

In Huang, receiver hint information (RHI) contains information about device capabilities of a client device. (Huang; column 5, lines 44-45 and lines 52-53). The term “device capabilities” in Huang refers to static information about a client device that does not change over time and not to dynamic information such as a residual amount of memory capacity of the client device. This is apparent both from the discussion in Huang about the

types of client device characteristics included in the RHI and when the RHI information in Huang can be determined.

First, the types of client device characteristics included in the RHI in Huang demonstrate that the RHI contains static information about a client device. The characteristics mentioned by Huang that are included in a RHI by a client device are “type of display” and “size of graphics memory”. (Huang; column 5, lines 55-60). The “type of display” of a client device is static information that does not change over time. Furthermore, the “size of graphics memory” is also static information as it refers to the total memory capacity of the graphics memory. The “size” of graphics memory is different than a “residual amount” of memory capacity, because the residual amount of memory capacity changes over time as objects are stored in the memory and deleted from the memory.

Indeed, Huang never discloses that a residual amount of memory capacity is monitored by a client device. There is no need for a client device in Huang to monitor a residual amount of memory capacity, because such information is not included in a RHI sent to a proxy server from a client device. Even Applicant’s Admitted Prior Art (AAPA) acknowledges that capability and preference information (CPI) has been known in the prior art to contain static information such as display size, color support ability, image support ability, software characteristics, audio encoder information, browser versions, and script based support. (Specification; page 2, lines 4-13). The RHI in Huang sent from the client devices contains similar types of static information as the prior art CPI disclosed in AAPA which led to the problem that the present invention seeks to address. Namely, the static information included in a RHI of Huang from a client device does not take into account dynamic changes in the client device and, therefore, can lead to a waste of communication resources or the careless deletion of data when an object is transmitted without reference to an amount of residual memory.

Second, the time at which the RHI for a client device in Huang can be determined demonstrates that the RHI in Huang from the client device contains static information. Huang states that the RHI for a client device can be stored in a table and that a proxy server can construct the RHI for the client device based on the information stored in the table.

(Huang; column 5, lines 52-55). Then, Huang states that, “[t]he table entry for a particular client device 130, 131 can be stored when the device first registers with the ISP” and that, “[t]hereafter, the local proxy server receives an identifier of the client device when the client device makes a request, accesses the table, and constructs the appropriate RHI for inclusion with the object request.” (Huang; column 5, lines 60-65)(Emphasis Added).

By stating that the table entry for a particular client device can be stored when the device first registers with the ISP, Huang is acknowledging that the RHI information for the client device is static and will not change with time, because the table entry is not updated based on dynamic information. Indeed, the table entry is then later accessed by using only an identifier of a requesting device and the RHI is constructed based on the information in the table. (Huang; column 5, lines 53-54). Thus, the RHI information can be stored in the table when the client device first registers and then the same static information can continue to be accessed based on only an identifier of a requesting device. Huang never discloses that a client device monitors a residual amount of memory capacity.

Therefore, independent claim 1, as amended, is neither disclosed nor suggested by the cited prior art and, hence, is believed to be allowable.

Independent claim 12, as amended, recites a client device with an operation similar to the object filtering method of claim 1 and, thus, claim 12 is believed to be allowable for at least the same reasons that claim 1 is believed to be allowable.

New independent claim 19 recites a client device with an operation similar to the object filtering method of claim 1 and, thus, claim 19 is believed to be allowable for at least the same reasons that claim 1 is believed to be allowable.

The dependent claims are deemed allowable for at least the same reasons indicated above with regard to the independent claims from which they depend.

Conclusion:

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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